

ABSTRACT OF THE DISCLOSURE

A method for filling recessed micro-structures at a surface of a semiconductor wafer with metallization is set forth. In accordance with the method, a metal layer is deposited into the micro-structures with a process, such as an electroplating process, that generates metal grains that are sufficiently small so as to substantially fill the recessed micro-structures. The deposited metal is subsequently subjected to an annealing process at a temperature below about 100 degrees Celsius, and may even take place at ambient room temperature to allow grain growth which provides optimal electrical properties.